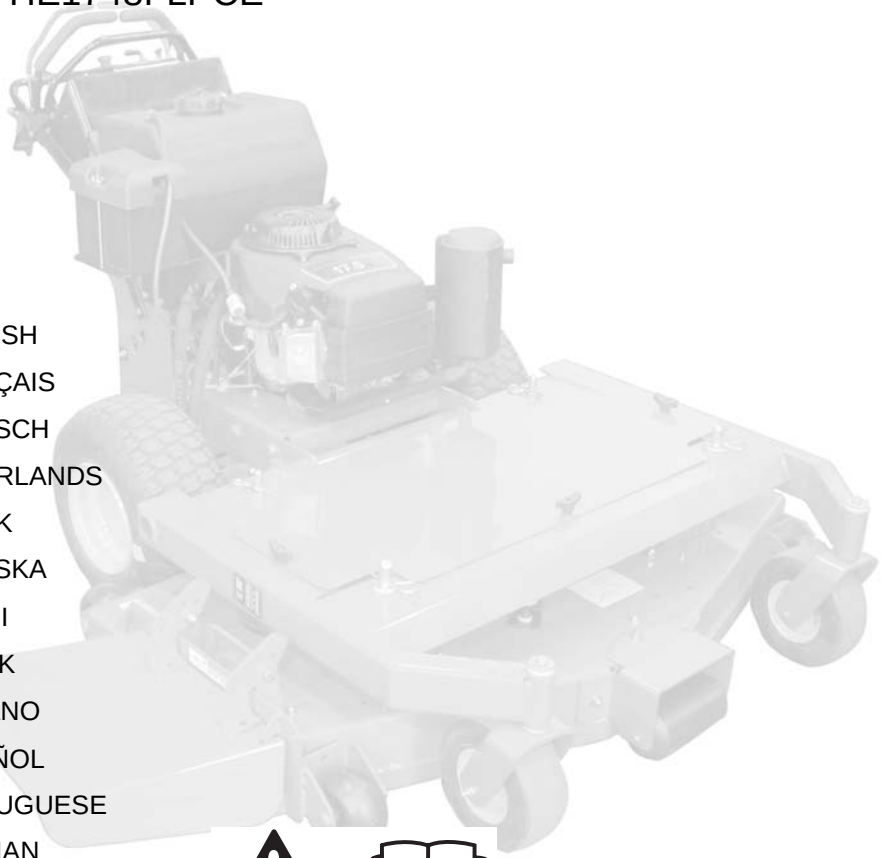
Hydro Pro Series

Owner/Operator Manual – Manuel de L'Opérateur – Betriebsanleitung – Gebruikshandleiding – Instruktionsbog – Instruktionsbok – Käyttöohjekirja – Brukerhåndbok – Manuale del proprietario/operatore – Manual del operador/propietario – Manual do Proprietário/ Operador – Руководство владельца/пользователя – Instrukcja Obsługi / Operatora -

988316 - HR1536FXPCE
988319 - HR1544FXPCE (Rear Discharge)
988320 - HE1748FLPCE



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EC DECLARATION OF CONFORMITY ISSUED BY THE MANUFACTURER – DÉCLARATION DE CONFORMITÉ CE ÉMISE PAR LE FABRICANT – EU-ÜBEREINSTIMMUNGSERKLÄRUNG DES HERSTELLERS – VERKLARING VAN OVEREENSTEMMING VOOR DE EU, AFGEGEVEN DOOR DE FABRIKANT – EF OVERENSSTEMMELSESERKLÆRING UDSTEDT AF FABRIKANTEN – DICHIARAZIONE DI CONFORMITÀ CE RILASCIATA DAL PRODUTTORE – DECLARACIÓN DE CONFORMIDAD CE EMITIDA POR EL FABRICANTE – EF-SAMSVARSERKLÆRING FRA PRODUSENTEN – EG-DEKLARATIONEN OM ÖVERENSSTÄMMELSE UTFÄRDAD AV TILLVERKAREN – VALMISTAJAN ANTAMA EY-VAATIMUSTENMUKAISUUSVAKUUTUS – DEKLARACJA ZGODNOŚCI Z PRZEPISAMI EC WYDANA PRZEZ PRODUCENTA – DECLARAÇÃO DE CONFORMIDADE CE EMITIDA PELO FABRICANTE –

We the undersigned, ARIENS COMPANY, certify that: Nous, soussignés ARIENS COMPANY, certifions que : Der Unterzeichnete, ARIENS COMPANY, bescheinigt, dass: Wij, de ondergetekenden, ARIENS COMPANY, verklaren dat: Undertegnede, ARIENS COMPANY, attesterer, at: La sottoscritta società ARIENS COMPANY certifica che: Nosotros, los abajo firmantes, ARIENS COMPANY, certificamos que: Undertegnede, ARIENS COMPANY, bekrefter at: Undertecknad, ARIENS COMPANY, intygar att: Allekirjoittanut, ARIENS COMPANY, vakuuttaa, että: My, niżej podpisani, ARIENS COMPANY, oświadczamy, że: Nós, abaixo assinados, certificamos em nome da ARIENS COMPANY, que:

Type: Type : Typ: Type: Type: Tipo: Tipo: Type: Typ: Tyyppi: Typ: Tipo:	Walk Behind Lawn Mower – Tondeuse à gazon autotractée – Handgeführter Rasenmäher – Duwgrasmaaier – Selvkørende plæneklipper – Tosaerba semovente – Cortacésped de empuje manual – Gressklipper – Självgående gräsklippare – Käsinohjailtava ruohonleikkuri – Kosiarka trawnikowa – Cortador de Relva Convencional –		
Trade Name: Appellation commerciale : Handelsbezeichnung: Handelsnaam: Firmanavn: Nome commerciale: Nombre comercial: Handelsnavn: Handelsbeteckning: Kauppanimi: Nazwa handlowa: Nome da Marca:	Ariens		
Model: Modèle : Modell: Model: Model: Modello: Modelo: Modell: Modell: Malli: Model: Modelo:	988316	988319	988320
Cutting Width: Largeur de coupe : Schnittbreite: Maaibreedte: Klippebredde: Larghezza di taglio: Ancho de corte: Klippebredde: Klippbredd: Leikkuuleveys: Szerokość cięcia: Largura de corte:	89.5 cm	111.8 cm	120 cm

Conforms to: Est conforme à : Mit den Anforderungen der folgenden Richtlinien übereinstimmt: Voldoet aan: Er i overensstemmelse med: È conforme a: Cumple con: Er i samsvar med: Överensstämmer med: Täyttää seuraavat vaatimukset: Jest zgodny z: De acordo com:
98/37/EC, 89/336/EEC;

2000/14/EC Conformity Assessment Annex VI. Annexe VI de l'évaluation de conformité. Konformitätsbewertung, Anhang VI. Bijlage VI voor beoordeling van overeenstemming. Vurdering af overensstemmelse Anneks VI. Annesso VI della valutazione di conformità. Anexo VI de la evaluación de la conformidad. Samsvarsvurdering etter vedlegg VI. Bedömning av överensstämmelse Bilaga VI. Vaatimustenmukaisuuden arviointi, liite VI. Dodatek VI, Ocena zgodności. Anexo VI da Avaliação de Conformidade.

Representative Measured Sound Power Level (L_{wa}) – Niveau de puissance acoustique représentatif mesuré (L_{wa}) – Repräsentativer gemessener Geräuschpegel (L_{wa}) – Representatief gemeten geluidsniveau (L_{wa}) – Repræsentativt, målt støjeffektniveau (L_{wa}) – Livello di potenza sonora rappresentativo rilevato (L_{wa}) – Nivel de potencia acústica representativo medido (L_{wa}) – Representativt målt lydeffektnivå (L_{wa}) – Representativ uppmätt ljudnivå (L_{wa}) – Tyypillinen mitattu äänitehotaso (L_{wa}) – Zmierzony reprezentatywny poziom mocy akustycznej (L_{wa}) – Nível de Potência de Som Medido Representativo (L_{wa})		Guaranteed Sound Power Level (L_{wa}) – Niveau de puissance acoustique garanti (L_{wa}) – Garantierter Geräuschpegel (L_{wa}) – Gegarandeerd geluidsniveau (L_{wa}) – Garanteret støjeffektniveau (L_{wa}) – Livello di potenza sonora garantito (L_{wa}) – Nivel de potencia acústica garantizado (L_{wa}) – Garantert lydeffektnivå (L_{wa}) – Garanterad uppmätt ljudnivå (L_{wa}) – Taattu äänitehotaso (L_{wa}) – Gwarantowany reprezentatywny poziom mocy akustycznej (L_{wa}) – Nível de Potência de Som Garantido (L_{wa}) –	
988316	99 dB_A	988316	100 dB_A
988319	100 dB_A	988319	100 dB_A
988320	104 dB_A	988320	105 dB_A

Notified Body – Organisme notifié – Zertifizierungsstelle – Aangemelde instantie – Bemyndiget organ – Organismo notificato – Organismo notificado – Teknisk kontrollorgan – Anmält organ – Ilmoitettu laitos – Organ zaświadczający – Organismo Certificador –	SNCH 11, Route de Luxembourg L-5230 Sandweiler

Fred J. Moreaux:

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Ariens Company

Brillion, WI 54110-0157 USA

Signature Signature Unterschrift Handtekening Underskrift Firma Firma Signatur Namnteckning Allekirjoitus Podpis Assinatura

3/14/2005

Date Date Datum Datum Dato Data Fecha Dato Datum Päiväys Data Data

CE Sound and Vibration – Bruits et vibrations CE – CE Geräusch- und Vibrationswerte – CE Geluid en trilling – CE støj og vibration – Livello sonoro e vibrazioni CE – Sonido y vibración CE – CE-lyd og -vibrasjon – CE ljudnivå och vibrationer – CE, melu ja tärinä – CE Dźwięku i Wibracji – Som e Vibração CE – (Ref. EN836-2001)

Model: Modèle : Modell: Model: Model: Modello: Modelo: Modell: Modell: Malli: Model: Modelo:	988316	988319	988320
Oper. Ear Sound Pressure (L_{pa}) in dB_A – Pression acoustique aux oreilles de l'opérateur (L_{pa}) en dB_A – Geräuschpegel am Ohr des Bedieners (L_{pa}) in dB_A – Geluidsdruk bij het oor van de gebruiker (L_{pa}) in dB_A – Strøjtryk ved brugerens øre (L_{pa}) målt i dB_A – Pressione sonora all'orecchio dell'operatore (L_{pa}) in dB_A – Presión de sonido en el oído (L_{pa}) in dB_A – Lydtrykk ved førerens øre (L_{pa}) inn dB_A – Ljudeffekt vid förarens öron (L_{pa}) i dB_A – Kuljettajan korvaan kohdistuva äänenpaine (L_{pa}), dB_A – Robocze ciśnienie akustyczne na uchu (L_{pa}) w decybelach$_A$ – Oper. Pressão do Som no Ouvido (L_{pa}) em dB_A –	87	86	89
Vibration Measure (m/sec^2) at Operator Mesure des vibrations (m/s^2) au niveau de l'opérateur Vibration (m/s^2) an des Bedieners Gemeten trilling bij (m/sec^2) Vibrationsmålinger (m/s^2) ved brugerens Vibrazioni percepite dall'operatore (m/sec^2) Medida de vibración (m/seg^2) en el operador Vibrasjonsmåling (m/s^2) ved førerens Vibrationsmått (m/s^2) vid förarens Tärinä (m/s^2) kuljettajan Pomiar wibracji (m/sec^2) u operatora Medida de Vibração ($m/seg.^2$) no Operador			
Hands – Mains – Hände – De handen van de gebruiker – Hænder – Mani – Manos – Hender – Händer – Käsissä – Ręce – Mãos – **X**	1.8	2.0	1.6
Y	1.3	2.1	3.2
Z	1.8	1.6	1.8

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INTRODUCTION

THE MANUAL

Before operation of unit, carefully and completely read your manuals. The contents will provide you with an understanding of safety instructions and controls during normal operation and maintenance.

All reference to left, right, front, or rear are given from operator standing in operation position and facing the direction of forward travel.

MODEL AND SERIAL NUMBERS

Transfer model & serial number label from product registration here.

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are printed on a serial number label, located on the frame of your unit.

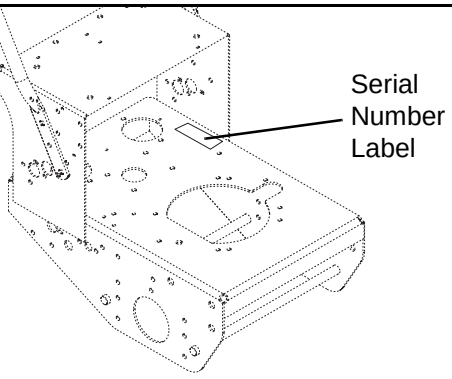

Figure 1 OG1400

- Record Engine Model and Serial numbers here.

PRODUCT REGISTRATION

The Ariens dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

Customer Note: If the Dealer does not register your product, please fill out, sign and return the product registration card to Ariens or go to www.ariens.com on the internet.

UNAUTHORIZED REPLACEMENT PARTS

Use only Ariens replacement parts. The replacement of any part on this vehicle with anything other than an Ariens authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Ariens disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts. To locate your nearest Ariens Dealer, call 1-920-756-4664 or go to www.ariens.com on the internet.

DISCLAIMER

Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation.The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

DEALER DELIVERY

Dealer should:

1. Check all controls for proper function.
2. Check the safety interlock system to make sure that it is functioning properly. (See *Check Safety Interlock System* on page 11.)
3. Fill out Original Purchaser Registration Card and return the card to Ariens.
4. Explain Limited Warranty Policy.
5. Explain recommended lubrication and maintenance. Advise customer on adjustments.
6. Instruct customer on controls and operation of unit. Discuss and emphasize the Safety Precautions. Give customer Owner/Operator, Parts, and Engine Manuals. Advise customer to thoroughly read and understand them.

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SAFETY

WARNING: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the safety instructions in the manuals and on decals could result in serious injury or death.

Slopes are a major factor related to loss-of-control and tip-over accidents. Operation on all slopes requires extra caution.

Tragic accidents can occur if the operator is not alert to the presence of children. Never assume that children will remain where you last saw them.

Gasoline is extremely flammable and the vapors are explosive, handle with care.

Disengage attachment, stop unit and engine, remove key, engage parking brake, and allow moving parts to stop before leaving operator's position.

SAFETY ALERTS

Look for these symbols to point out important safety precautions. They mean:

Attention!

Personal Safety Is Involved!

Become Alert!

Obey The Message!

The safety alert symbols above and signal words below are used on decals and in this manual.

Read and understand all safety messages.

DANGER: IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.

WARNING: POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.

CAUTION: POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTATIONS

NOTE: General reference information for proper operation and maintenance practices.

IMPORTANT: Specific procedures or information required to prevent damage to unit or attachment.

PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area, including those that may restrict the age of the operator.

REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged Safety Decals. Refer to figures below for Safety Decal locations.

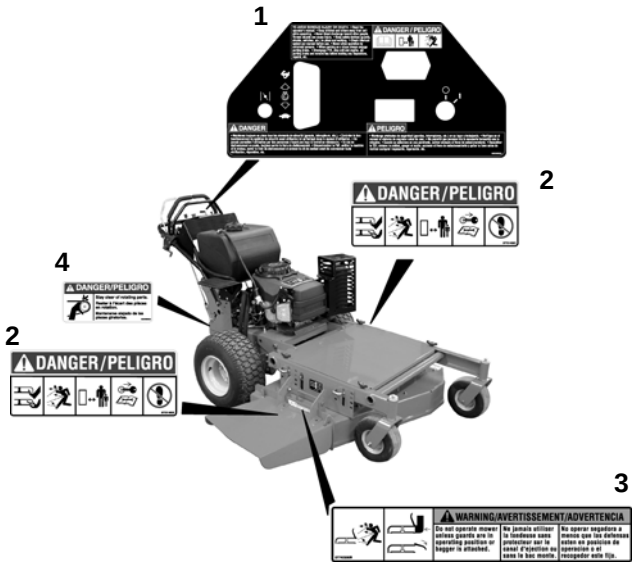


Figure 2

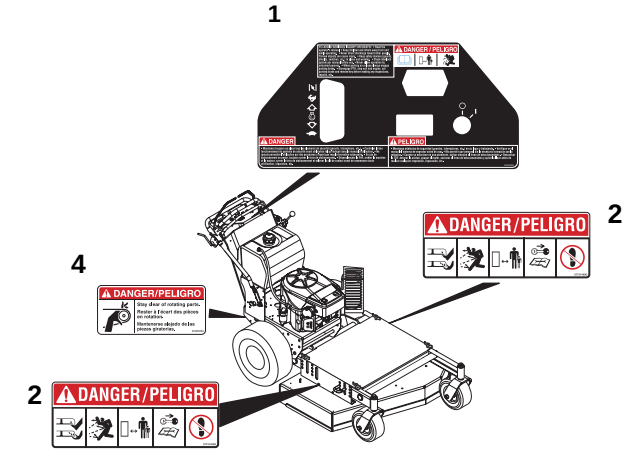
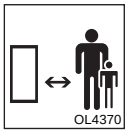


Figure 3

1. Danger! To avoid serious injury or death

OL1801

Read the operator's manual.


OL4370

Keep children and others away from unit while operating.

OL0910

Never direct discharge toward other people. Thrown objects can cause injury.

- Keep safety devices (guards, shields, switches, etc.) in place and working.
- Check interlock system per manual before use.
- Never allow operation by untrained persons.
- When parking on a slope always engage parking brake.
- Disengage PTO, stop unit and engine, set parking brake and remove key before making any inspections, repairs, etc.

2. Danger! Rotating Blades

OL3030

ROTATING BLADE! Keep hands and feet away.

OL0910

Always stand clear of discharge area. DO NOT direct discharge toward other people. Remove objects that could be thrown by the blade. DO NOT operate mower over gravel and hard surfaces.

OL4370

Keep people and pets away when operating unit. Keep children out of the work area and under the watchful care of a responsible adult.

OL4010

Shut off engine, remove key, read manual before you unplug, adjust or repair unit.

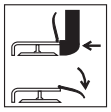
OL4420

NO STEP! Always keep feet away from rotating parts.

3. Warning!

OL0910

Always stand clear of discharge.


OL3320

DO NOT operate mower unless guards are in operating position or bagger is attached.

4. Danger!

OL5100

Stay clear of rotating parts.

SAFETY RULES

Read, understand and follow all safety practices in Owner/Operator Manual before beginning assembly. Failure to follow instructions could result in personal injury and/or damage to unit.

ALWAYS remove key (if equipped) and disconnect wire from spark plug before assembly. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

- Work area
- Your unit
- All safety decals

ALWAYS check overhead and side clearances carefully before operation.

ALWAYS be aware of traffic when operating along streets or curbs.

Keep children and people away.

Keep children out of work area and under watchful care of a responsible adult.

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury.

Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain.

ALWAYS be sure of your footing. Keep a firm hold on handlebar. Walk, NEVER run.

DO NOT operate on wet grass.

Dust, smoke, fog, etc. can reduce vision and cause an accident. Operate unit only when there is good visibility and light.

Read the entire Owner/Operator manual and other training material. If the operator or the mechanic cannot read the manual, it is the owner's responsibility to explain it to them. Only the user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

- Only trained adults may operate or service unit
- Training includes actual operation

NEVER allow children to operate or play on or near unit.

Be alert and shut off unit if children enter area.

Never carry passengers.

NEVER operate unit after or during the use of medication, drugs or alcohol. Safe operation requires your complete and unimpaired attention at all times.

NEVER allow anyone to operate this unit when their alertness or coordination is impaired.

Wear adequate safety gear, protective gloves and footwear.

NEVER wear open sandals or canvas shoes during operation.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Sharp edges can cut. Moving parts can cut off fingers or a hand. Wrap blade(s), wear sturdy gloves and use extreme caution when servicing. On multi-blade mowers, rotation of one blade will cause all blades to rotate.

ALWAYS keep hands and feet away from all rotating parts during operation. Rotating parts can cut off body parts.

ALWAYS keep hands away from all pinch points.

DO NOT touch unit parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

NEVER place your hands or any part of your body or clothing inside or near any moving part while unit is running.

DO NOT wear loose clothing or jewelry. Tie back hair that may get caught in rotating parts.

Keep children and people away from unit during operation.

Fumes from engine exhaust can cause injury or death.

DO NOT run engine in an enclosed area. Always provide good ventilation.

Thrown objects can cause injury and property damage. DO NOT point discharge at anyone or discharge directly onto paved or gravel surfaces.

Always stand clear of the discharge area when operating this unit.

Read, understand, and follow all instructions in the manual and on the machine before starting. Understand:

- How to operate all controls
- The functions of all controls
- How to STOP in an Emergency
- Braking and steering characteristics
- Turning radius and clearance

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened.

NEVER modify or remove safety devices.

ALWAYS keep discharge cover or complete grass catcher in place and in proper working condition.

Check steering control operation frequently. Adjust and service as required.

Safety Interlock System must function properly. DO NOT operate unit if operator presence control is damaged or disabled.

If you strike an object, or if equipment vibrates abnormally, stop engine at once, disengage PTO, wait for all moving parts to stop, and remove key. Check for any damage or loose parts. Repair before restart.

Before starting engine: disengage PTO, engage parking brake and place unit in neutral.

DO NOT operate at too fast a rate. DO NOT change engine governor settings or over-speed engine. Slow down and turn corners slowly.

Disengage PTO when attachment is not in use. DO NOT raise deck with blades running. ALWAYS turn off power to attachment when travelling, crossing driveways, etc.

Avoid uneven and rough terrain. DO NOT operate near drop-offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

DO NOT try to stabilize unit by putting foot on ground when operating with applicable riding attachments.

When engine is running and speed control lever is forward, holding only one steering lever will cause unit to circle around one drive wheel.

Use care when approaching blind corners, shrubs, trees or other objects that may obscure view.

ALWAYS disengage PTO, stop unit and engine, set parking brake, remove key and allow moving parts to stop before clearing clogs or cleaning unit.

Never leave a running unit unattended. ALWAYS shut off engine before leaving unit.

ALWAYS remove key to prevent unauthorized use.

DO NOT operate in reverse unless absolutely necessary. ALWAYS backup slowly. ALWAYS look down and behind, before and while backing.

DO NOT operate on steep slopes. DO NOT operate on slopes of more than 10°. Operate across the face of slopes, not up and down.

Turf conditions can affect the unit's stability.

Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction. Use a slow speed to avoid stopping or shifting on slopes. Avoid starting or stopping on a slope.

DO NOT park unit on a slope unless absolutely necessary. When parking on a slope always engage parking brake and block wheels.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

Keep unit free of grass, leaves, or other debris. Clean up oil or fuel spills.

This product is equipped with an internal combustion engine. DO NOT use on or near any unimproved, forest covered or brush covered land unless the exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if used, must be maintained in effective working order by the operator.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container.

No smoking, No sparks, No flames. ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

If fuel is spilled on clothing, change clothing immediately.

NEVER store fuel inside where there is an open flame, such as a water heater.

Avoid Electric Shock. Objects contacting both battery terminals at the same time may result in injury and unit damage. DO NOT reverse battery connections.

Reverse connections may result in sparks which can cause serious injury. Always connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead to negative (-) terminal.

ALWAYS disconnect negative (-) cable FIRST and positive (+) cable SECOND. ALWAYS connect positive (+) cable FIRST, and negative (-) cable SECOND.

Explosive Gases from battery can cause death or serious injury. Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes or clothing can cause severe chemical burns.

No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery. Use insulated tools.

DO NOT TIP battery beyond a 45° angle in any direction.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Reverse connections may cause sparks which may result in injury. ALWAYS connect/disconnect cables in proper order.

Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes, or clothing can cause severe burns.

Explosive Gases! No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery.

ALWAYS keep batteries out of reach of children.

Before making any inspections, repairs, etc.: disengage PTO, stop unit and engine, set parking brake, remove key, allow moving parts to stop.

ALWAYS keep body and hands away from pin holes or nozzles which eject hydraulic fluid under pressure.

Allow hot parts to cool.

ALWAYS block wheels, engage parking brake and know all jack stands are strong, secure and will hold weight of unit during maintenance.

An extension spring, when extended, stores energy and can be dangerous. Always use tools specifically designed for installing or removing an extension spring. Always compress or extend springs slowly.

ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Keep hardware, especially blade attachment bolts, tight.

Maintain or replace safety and instruction labels, as necessary.

For unit storage or extended storage:

- NEVER store with fuel in fuel tank, inside a building where any ignition sources are present.
- Allow engine to cool completely.

Use only attachments or accessories designed for your unit and that can be used safely on your terrain.

Check attachment components frequently for wear, damage or deterioration. Replace with manufacturer’s recommended parts for safety.

To reduce fire hazard and overheating, keep equipment free of grass, leaves, debris or excessive lubricants.

Use extra care with grass catchers and other attachments. These can change the stability of the unit. Use only approved hitch points.

ALWAYS be aware of attachments when turning. ALWAYS allow adequate clearance between attachments, personnel, and other objects.

ASSEMBLY

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

1. Remove the unit from shipping container.
2. Adjust tire pressure to 8 to 16 psi (55 to 110 kPa).
3. Service and connect battery. *See Charge Battery* on page 21.
4. Check the adjustments outlined in *Service & Adjustments*.
5. Check engine oil level. See engine manual.
6. Check hydraulic fluid level. See *Maintenance*.
7. Add clean fuel to the fuel tank. See engine manual for type and grade.
8. Check for loose hardware.
9. Be sure that safety interlock system operates correctly. See *Check Safety Interlock System* on page 11.
10. Be sure that unit tracks straight.

    Unit must not pull sharply to the left or right when the speed control levers are pushed quickly forward.

    Unit must not pull sharply to the left or right when the steering levers are released. See *TRACKING ADJUSTMENT* on page 18.

CONTROLS AND FEATURES

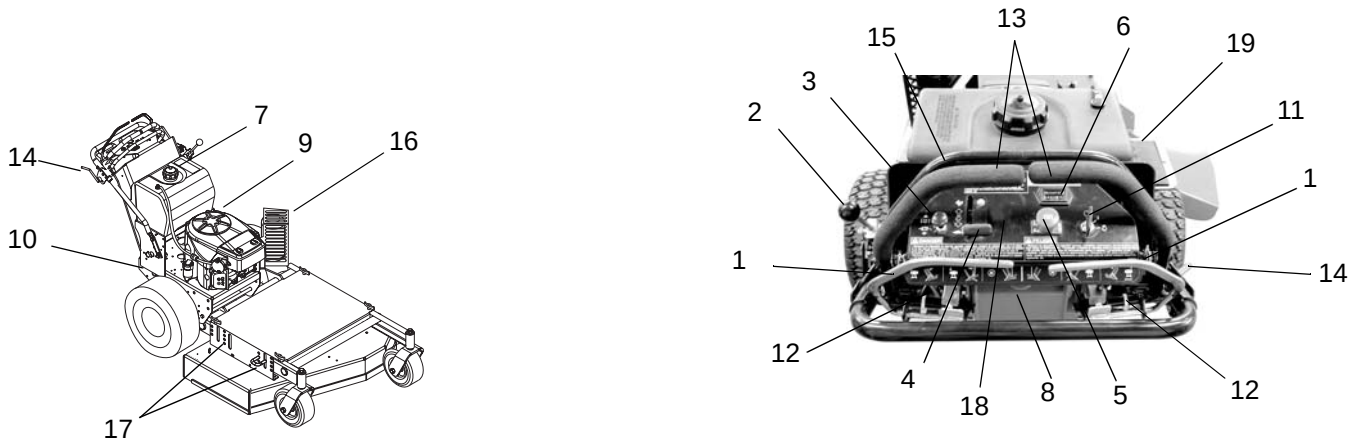


Figure 4

1. Operator Presence Control Lever
2. Parking Brake
3. Choke Control
4. Throttle Lever
5. PTO Switch
6. Hourmeter
7. Fuel Cap
8. Hydraulic Fluid Tank
9. Recoil Starter Handle
10. Cold Start Disengage
11. Ignition Switch
12. Bypass Valve Levers
13. Control Levers
14. Control Stop Lock Lever
15. Pivot Bar
16. Muffler Guard
17. Mower Lock Pin
18. Oil Light (988320)
19. Battery (988320)

OPERATION

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

CONTROLS AND FEATURES

See Figure 4 for controls and features locations.

SAFETY INTERLOCK SYSTEM

DANGER: SAFETY INTERLOCK SYSTEM FAILURE and improper operation of unit can result in death or serious injury. ALWAYS know the safety interlock system is operating properly. See *Check Safety Interlock System* on page 11 for testing instructions.

Check Safety Interlock System

Test the safety interlock system at each operation. If the system does not function properly, do not operate the unit until repairs are made.

The engine will only start with the PTO disengaged, the speed control levers in neutral and the parking brake on.

To test:

1. With engine off, set controls as listed in line A of the table below and try to start the engine.

IMPORTANT: If the system does not function properly, do not operate the unit until repairs are made.

2. Repeat step 1 for lines B-E of the table.

ENGINE OFF TEST	PARKING BRAKE	OPERATOR PRESENCE CONTROL*	PTO	ENGINE
A	On	On	Off	Starts
B	On	Off	Off	Starts
C	Off	Off	Off	Doesn't Start
D	Off	On	Off	Doesn't Start
E	Off	Off	On	Doesn't Start

***Test the left and right operator presence controls separately.

3. With engine running, set controls as listed in line A of the table below and check the result.

IMPORTANT: If the system does not function properly, do not operate the unit until repairs are made.

4. Repeat step 3 for lines B-E of the table.

ENGINE RUNNING TEST	PARKING BRAKE	OPERATOR PRESENCE CONTROL	PTO	ENGINE
A	On	Off	Won't Engage	Runs
B*	On	Off	Disengages	Runs
C	Off	On	Engages	Runs
D*	Off	Off**	Engaged	Stops Running
E	Off	Off	Off	Stops Running

*Perform this test with PTO properly engaged.

****Release both operator presence controls for this test.

NOTE: PTO should only engage when the parking brake is off AND at least one operator presence control is engaged. PTO should disengage when BOTH operator presence controls are released.

Operator Presence Control

The operator presence control levers must be depressed to operate the PTO. When the PTO is engaged, releasing the operator presence control levers stops the mower blades.

CAUTION: AVOID INJURY. Operate only when operator presence control is functioning correctly. See *Check Safety Interlock System* on page 11 for testing instructions.

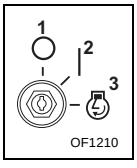
Control Levers

WARNING: AVOID INJURY. When the engine is running , moving only one lever causes the unit to circle around one drive wheel.

ALWAYS move levers slowly.

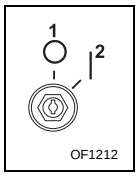
The control levers are used to steer, operate in forward and reverse, and stop the unit. Push forward to move forward. Pull back to move in reverse.

Ignition Switch (988320)



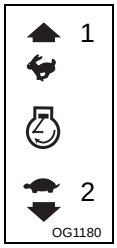
Operate the ignition switch with the removable key. The switch has three positions: Off (1), On (2) and Start (3). To start the engine, turn the key to Start, then release to On. To stop the engine, turn the key to Off.

Ignition Switch (988316, 319)



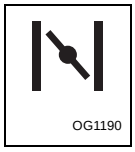
Operate the ignition switch with the removable key. The switch uses two positions: Off (1) and On (2). To start the engine, turn the key to On (2) and pull the recoil handle. To stop the engine, turn the key to Off (1).

Throttle Lever



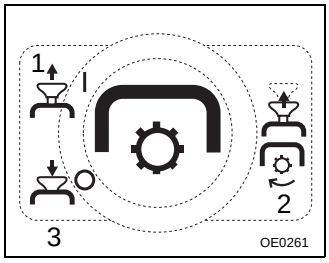
The throttle lever changes the speed of the engine. Move the throttle lever to Fast (1) to increase engine speed. Move the lever to Slow (2) to decrease engine speed.

Choke Control



Use the choke control to start a cold engine. Pull the control out to choke the engine. Push the control in when the engine gets warm.

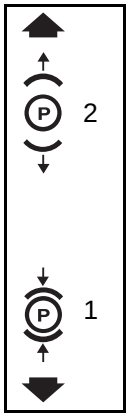
PTO Clutch



Pull the PTO (power take off) switch past On (1) to Reset (2) to engage the mower blades. Push the PTO switch Off (3) to disengage the mower blades.

NOTE: Pull PTO switch to Reset (2) to engage mower blades after operator presence control has been released.

Parking Brake



The parking brake holds the tractor in position when not in use.

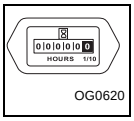
To engage parking brake, pull the brake handle back (1).

To release parking brake, push the brake handle forward (2).

Recoil Starter Handle

Pull the recoil starter handle to start the engine.

Hour Meter



Recoil Start: The hour meter measures the number of hours the engine has been run.

Oil Pressure Light (988320)

The red light near this symbol comes on when the engine is running and engine oil pressure is low. Check oil level and add if necessary. See Engine Manual.

Cold Start Disengage

Use the cold start disengage for easier starting on cold days.

1. Pull out cold start chain 1 to 4 links and lock chain in frame notch (Figure 5).
2. Start engine and allow engine to warm to operating temperature.
3. Slowly release chain from notch.

WARNING: AVOID INJURY. Unit will move if steering controls are engaged when cold start feature is released.

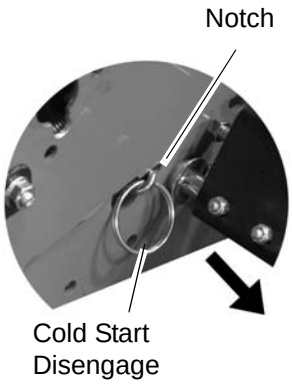


Figure 5

FILL FUEL TANK

WARNING: Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container.

NO smoking, NO sparks, NO flames. ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Add fuel to the fuel tank as needed. See engine manual for type and grade of fuel.

To add fuel to the fuel tank:

1. Put the unit in an open area.
2. Stop the engine.
3. Allow engine to cool.
4. Clean the fuel cap and the area around the fuel cap to prevent dirt from entering the fuel tank.
5. Remove the cap from the fuel tank.
6. Fill the fuel tank. Be careful not to spill.
7. Install the cap on the fuel tank and tighten.
8. Clean up any spilled fuel before starting the engine.

TO STOP IN AN EMERGENCY

1. Release operator presence control(s).
2. Turn the ignition key Off.
3. Allow engine to stop completely.
4. Engage parking brake.

STARTING AND SHUT OFF

Before Each Use

Check each item in *Each Use* in the Maintenance Schedule.

Recoil Start

1. Engage the parking brake.
2. Bring control levers to neutral.
3. Move PTO switch to Off.
4. Set throttle to the proper starting position. If the engine is cold, choke the engine.
5. Turn ignition switch to On.
6. Grasp recoil starter handle and pull rope out slowly until it pulls harder. This is the compression stroke.
7. Let the rope rewind slowly.
8. Pull rope with rapid continuous full arm stroke to start engine. Allow rope to rewind slowly.

IMPORTANT: DO NOT let starter handle snap against engine.

9. Repeat until engine starts. (If engine does not start, refer to Engine Manual.)
10. After engine starts, adjust choke as needed. Allow engine to warm and run smoothly before operating unit.

Electric Start (988320)

To start the engine:

1. Engage parking brake.
2. Bring control levers to neutral.
3. Move PTO switch to Off.
4. If the engine is cold, choke the engine.
5. Move the throttle to Fast.
6. Put the ignition key in the switch and turn it to Start.

IMPORTANT: DO NOT operate starter motor more than 15 seconds per minute, as overheating and damage can occur. If engine will not start, refer to *Troubleshooting* or Engine Manual.

7. When the engine starts, release the key to Run position.
8. After engine starts, adjust choke as needed. Allow engine to warm and run smoothly before operating unit.

Shut Off

1. Bring control levers to neutral.
2. Move the throttle lever to Slow.
3. Engage parking brake.
4. Turn the ignition key Off.
5. Allow engine to stop completely.

TO OPERATE UNIT

Operate the unit only in the operator's position directly behind the handlebars.

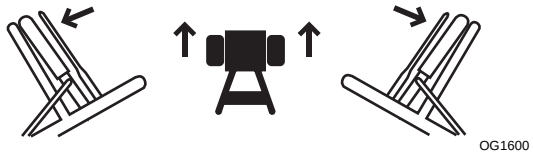
To operate:

1. Start the engine (See *STARTING AND SHUT OFF* on page 13).
2. Move the throttle lever to the Fast position.
3. Engage operator presence control.

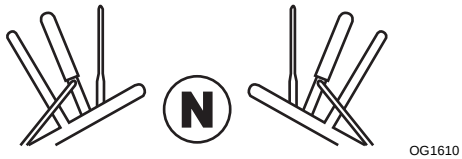
WARNING: AVOID INJURY. When the engine is running , using one steering control lever causes the unit to circle around one drive wheel.

ALWAYS hold both steering levers when operating unit and move levers slowly.

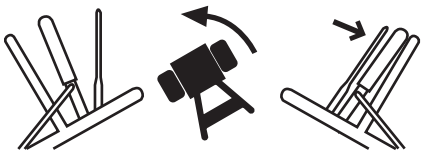
- To move straight forward, slowly push control levers forward.



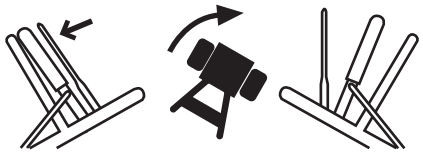
- To stop unit motion, allow control levers to return to neutral.



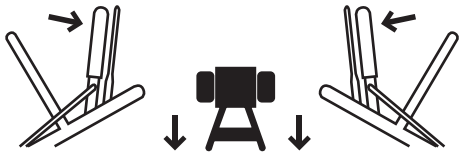
- To turn to the left, push the right hand control lever forward.



- To turn to the right, push the left hand control lever forward.



- To move in reverse, pull both control levers backward, past the neutral position. Pulling the levers farther back increases reverse speed.



WARNING: Uncontrolled reverse travel can result in serious injury.

Do not put control levers into the reverse position unless you are prepared to operate in reverse.

To mow:

1. Move the throttle lever to the fast position.
2. Engage operator presence control(s).

NOTE: Operator presence control must remain engaged.

3. Move the PTO switch to On to engage mower.

IMPORTANT: NEVER engage the PTO if the mower is plugged with grass or other material. This will damage the PTO belt.

4. Push control levers forward slowly.

When you know how to operate the unit, select a speed appropriate to your mowing conditions.

To stop mowing:

1. Allow control levers to return to neutral.
2. Move the throttle lever to 1/2 speed.
3. Turn off PTO switch.

CUTTING HEIGHT ADJUSTMENT

Fixed Decks

1. Shut off the unit. See *Shut Off* on page 13 and "To stop mowing."
2. Lift deck by handle until mower lock pins can be pulled out of holes.
3. Turn latches slightly so they can't snap back into place.
4. Set deck to desired cutting height (Figure 6).
5. Place mower lock pins into desired hole.

IMPORTANT: Make sure lock pins are fully engaged.

6. Repeat adjustment for other side of deck.

Fixed Deck Cutting Heights

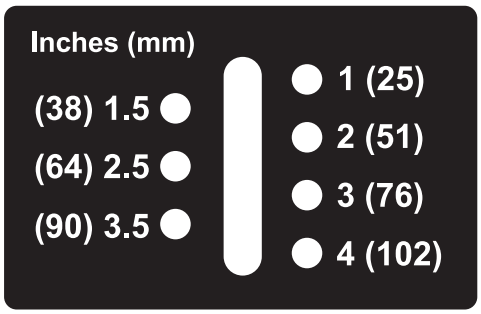


Figure 6

Floating Decks (988320)

1. Shut off the unit. See *Shut Off* on page 13 and "To stop mowing."
2. Lift deck by handle until hair pins can be removed from height adjustment rods.
3. Set deck to desired cutting height (Figure 7).
4. Insert hair pins into appropriate holes on height adjusting rods.
5. Repeat adjustment for other side of deck.

NOTE: It may be necessary to adjust cutting height in steps to keep deck from binding.

Floating Deck Cutting Heights

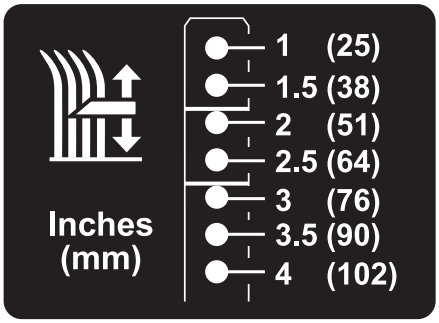


Figure 7

LAWN STRIPER ADJUSTMENT (48" decks)

The striper drags behind the deck and shapes grass as you mow.

Adjust the striper to match cutting height.

Short grass (deck low): mount from bottom holes.

Tall grass (deck high): mount from top holes.

PARKING

1. Shut off the unit. See *Shut Off* on page 13 and "To stop mowing."
2. Remove the key.
3. Lock pivot bar against control levers.
4. Chock or block the wheels if parked on a slope.

TO PUSH UNIT BY HAND

To move the unit without the engine running:

1. Rotate the bypass valve levers located on the back side of the pumps approximately 1/2 turn counterclockwise.
2. Release parking brake.
3. Push unit to desired location.
4. Rotate the bypass valve levers located on the back side of the pumps approximately 1/2 turn clockwise to operate the unit.

IMPORTANT: Towing the unit will damage hydraulic motors.

TO TRANSPORT UNIT

ALWAYS shut off engine, remove key and drain fuel when transporting unit on a truck or trailer. Use extra care when loading or unloading unit.

Engage parking brake.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

MAINTENANCE SCHEDULE

Period	Service	Task
Each Use	Check Safety Interlock System	**WARNING:** Safety interlock system failure and improper operation of unit can result in death or serious injury. Test this system each time the unit is operated. If this system does not function as described, do not operate until repairs are made. See *Check Safety Interlock System* on page 11.
	Check Air Cleaner	Check the air cleaner element before each use. See engine manual for detailed instructions.
	Check Engine Oil	Check the engine oil level before each use. Never operate the engine when the oil level is low. See engine manual for detailed instructions.
	Check Engine Cooling	Check the engine air cooling system before each use. See engine manual for detailed instructions.
	Check Fasteners	Check all nuts, bolts, and other fasteners before each use. Replace missing or damaged fasteners.
	Check Tire Pressure	Check tires for proper inflation, excessive wear or damage before each use. The correct air pressure is 8 to 16 psi (55 to 110 kPa).
	Check Hydraulic Fluid Level	Check hydraulic oil level mark on cap/dipstick. Add 15W-50 synthetic oil as needed. Do not overfill.
	Follow Engine Manual Maintenance Schedule	Perform scheduled engine maintenance. See engine manual for detailed instructions.
	Check Battery	Keep battery and its terminals clean.
Every 25 Hours	Check All Belts	Replace worn or deteriorated belts.
	Mower Blades	Check mower blades for wear. Sharpen or replace as needed.
	Clean Air Cleaner Foam Element	See engine manual for detailed instructions.
Every 50 Hours	General Lubrication	All all pivot points and pin connections. Grease lube fittings.
Every 100 Hours	Change Engine Oil	Open the petcock to drain oil through oil drain hole on the left side of engine. See engine manual for addional instructions.
	Check Fuel Filter	See engine manual for detailed instructions.
	Check Spark Plug	See engine manual for detailed instructions.
	Check Muffler	Check muffler for damage or wear. Replace if necessary.
	Clean Air Cleaner Paper Element	See engine manual for detailed instructions.
Every 500 Hours	Change Hydraulic Fluid and Filter	Drain hydraulic tank, replace hydraulic oil filter, refill system.

* Change oil after first 8 hours of operation and every 100 hours thereafter.

** Change Hydraulic Fluid after first 50 hours of operation and every 500 hours thereafter.

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

HYDRAULIC FLUID

WARNING: HYDRAULIC FLUID UNDER PRESSURE can penetrate skin and cause severe burns that can result in death or serious injury.

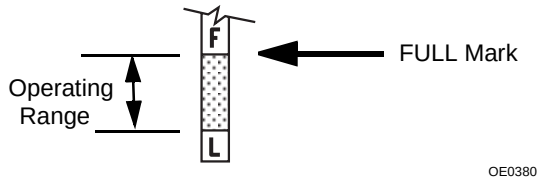
ALWAYS keep body and hands away from pin holes or nozzles which eject hydraulic fluid under pressure. ALWAYS use paper or cardboard and not hands to search for leaks.

KNOW that all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition BEFORE applying pressure to system.

Foreign fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

Check Hydraulic Fluid Level

Check the hydraulic fluid level with the dipstick before each use (more often if leaks are observed). Stop the engine before servicing any hydraulic parts.



1. Run unit until warm.
2. Shut off engine.
3. Unscrew tank cap to remove cap/dipstick.

NOTE: Do not allow any dirt to get into the system.

4. Wipe dipstick clean.
5. Screw cap/dipstick back into tank.
6. Remove cap/dipstick and check hydraulic oil level mark.
7. Add hydraulic fluid as needed. Do not overfill. See *Specifications* for hydraulic fluid type.

Change Hydraulic Fluid and Filter

Change hydraulic fluid and filter after the first 50 hours of operation. They both should be changed every 500 hours thereafter.

To change the hydraulic fluid and filter:

1. Place open container under tank. The container should be able to hold at least 4 quarts (3.8 L) of oil.
2. Remove tank from frame and allow tank to tip rearward to allow oil to drain from system (Figure 8).
3. After most of the oil has drained, turn the tank upside down counterclockwise to allow the rest of the oil to drain.
4. Clean around filter.
5. Turn filter counterclockwise to remove.
6. Fill the new oil filter with about 8 oz. (236 ml) of hydraulic oil.
7. Apply a thin coat of oil onto seal of new filter.
8. Install new filter and hand tighten securely.
9. Fill system with about 44 oz. (1.3L) fresh, clean hydraulic oil. See *Specifications* for proper type.
10. Run-in hydraulic system to bleed and lubricate components. See below.

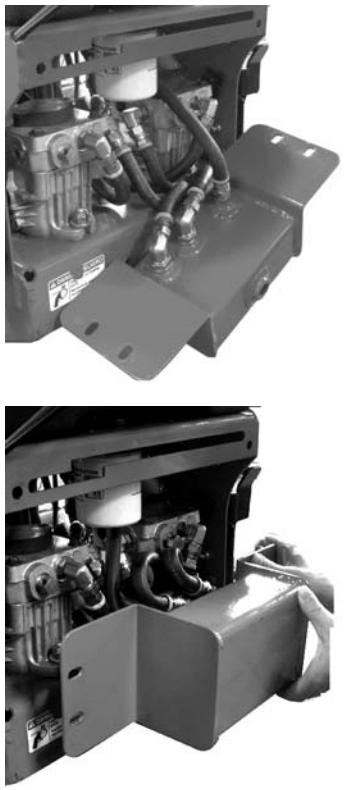


Figure 8

Hydraulic Run-In Procedure

1. Jack the drive wheels off the floor.
2. Start unit. Run engine at slowest speed for 1-2 minutes to bleed hydraulic pumps.
3. Increase engine speed to half. Set speed control 1/3 forward. Run engine for 3-5 minutes to bleed hydraulic motors.

NOTE: If necessary, start the motors turning by hand.

4. Shut off engine and lower the unit to the floor.

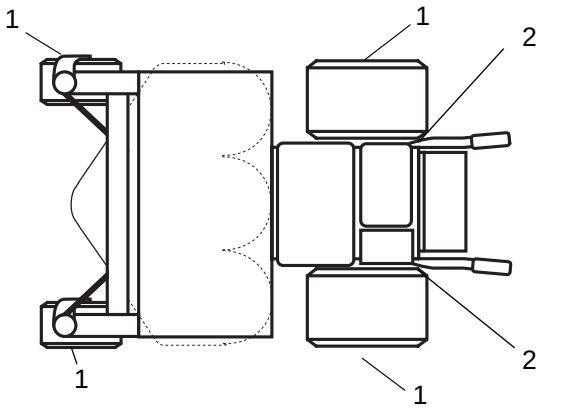
IMPORTANT: If any squealing noise occurs in the motors, repeat the run-in procedure.

GENERAL LUBRICATION

Apply a small amount of oil to the pivot points as required for smooth operation (Figure 9).

Apply high quality lithium based grease to all lube fittings every 50 hours of operation.

NOTE: The mower spindle assembly is maintenance free.



1. Wheel Bearings
2. Flange Bushings

OG1480

Figure 9

TRACKING ADJUSTMENT

Check Forward Tracking

1. Start engine and run unit at full throttle.
2. Slowly push both control levers against the pivot bar.
3. Note which direction, if any, the unit pulls.
4. Stop unit and engine.
5. Adjust tracking if needed.

Try each of the following steps until the unit tracks straight. It may not be necessary to perform all the steps.

If unit turns to the right:

1. Reduce the air pressure in the left tire.
2. Increase the air pressure in the right tire.
3. Adjust the clevis on the right steering control rod down the rod.

If unit turns to the left:

1. Reduce the air pressure in the right tire.
2. Increase the air pressure in the left tire.
3. Adjust the clevis on the left steering control rod down the rod.

Check Reverse Tracking

WARNING: Uncontrolled reverse travel can result in serious injury.

Do not put control levers into the reverse position unless you are prepared to operate in reverse.

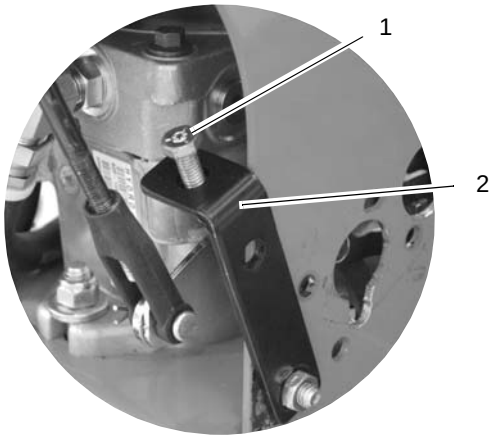
1. Adjust forward tracking (See *Check Forward Tracking* on page 18).
2. Slowly pull both control levers all the way back.
3. Note which direction, if any, the unit pulls.
4. Stop unit and engine.
5. Adjust tracking if needed.

If unit turns to the right:

1. Reduce the air pressure in the left tire.
2. Increase the air pressure in the right tire.
3. Turn the reverse stop bolt on the right neutral adjustment bracket counterclockwise to speed up the right wheel.
4. Check reverse tracking and adjust as needed.

If unit turns to the left:

1. Reduce the air pressure in the right tire.
2. Increase the air pressure in the left tire.
3. Turn the reverse stop bolt on the right neutral adjustment bracket clockwise to slow down the right wheel.
4. Check reverse tracking and adjust as needed.



1. Reverse Stop Bolt
2. Neutral Adjustment Bracket

Figure 10

Parking Brake Adjustment

To check:

1. Pull back parking brake lever (Figure 11).

   Brake arm must contact tire and brake lever must press brake switch, and there must be an 1/8" (3 mm) gap between the parking brake arm and the stop bolt on the unit frame.

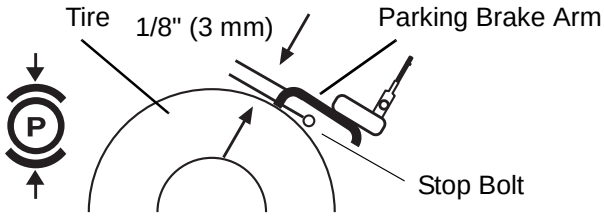


Figure 11

2. Push lever forward (Figure 12).
   Brake arm must disengage.

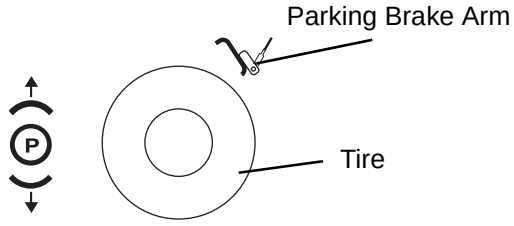
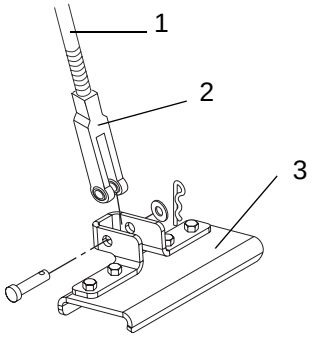


Figure 12

To adjust:

1. Remove clevis from brake arm tab (Figure 13).
2. Turn clevis up or down the brake rod as needed.
3. Replace clevis on brake arm tab.



1. Parking Brake Rod
2. Clevis
3. Parking Brake Arm

Figure 13

CONTROL LEVER NEUTRAL ADJUSTMENT

Check Neutral

1. Put control levers in neutral.
2. Engage parking brake.
3. Start engine.
4. Run engine at full throttle.
5. Disengage parking brake.
   Check for creep.

NOTE: If unit will not return to neutral, immediately have an authorized dealer service or adjust the unit.

SPEED RANGE ADJUSTMENT

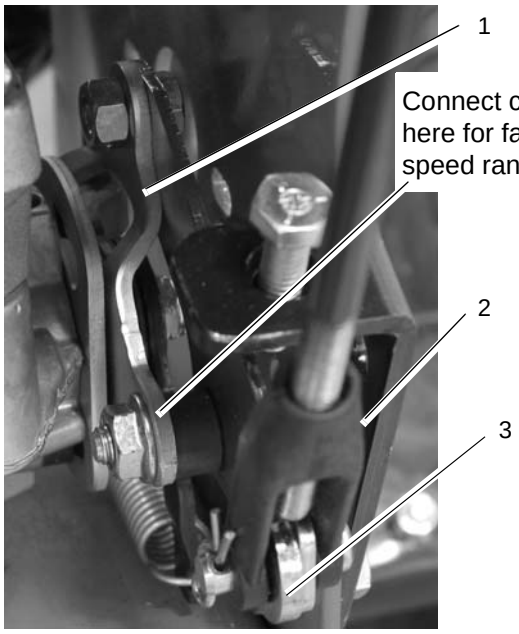
NOTE: Setting the unit to the faster speed range will make the steering controls more sensitive.

To adjust (Figure 14):

1. Stop engine.
2. Disconnect clevis from speed control arm.
3. Remove speed control arm from hydraulic pump.

NOTE: Save speed control arm and hardware to return unit to slower speed range.

4. Connect clevis to return to neutral bracket on the hydraulic pump with clevis pin and hairpin.
5. Repeat steps 1 - 4 for the other pump.
6. Check and adjust tracking as needed.



1. Neutral Bracket
2. Clevis
3. Speed Control Arm

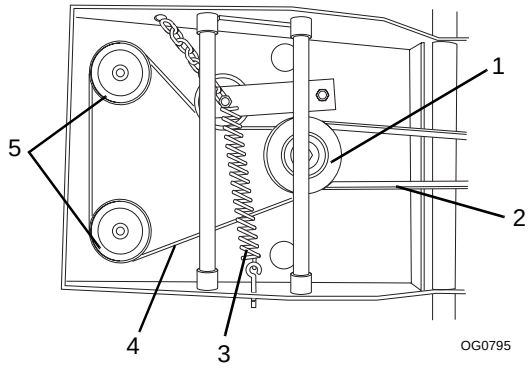
Figure 14

REPLACING HYDRO PUMP BELT

1. Place the control levers in neutral position.
2. Remove mower belt from mower clutch sheave (Figure 15).
3. Remove pump belt idler spring from eye bolt.

WARNING: An extension spring, when extended, stores energy and can be dangerous. Always use tools specifically designed for installing or removing an extension spring. Always compress or extend springs slowly.

4. Remove belt from engine sheave and pump pulleys.
5. Install new belt on engine sheave and pumps.
6. Reconnect idler spring to idler.
7. Put mower belt back on mower clutch sheave.



1. Mower Clutch Sheave
2. Mower Belt
3. Pump Belt Idler Spring
4. Hydro Pump Belt
5. Pump Pulleys

Figure 15

CLUTCH ADJUSTMENT

If clutch fails to engage or disengage properly or begins to make abnormal noise, check the air gap adjustment at the three inspection slots.

To check:

1. Stop engine, remove key and wait for all hot parts to cool.
2. Measure the air gap between the armature and the rotor.

   Minimum: A .005" feeler gauge should slide between armature and rotor with slight contact.

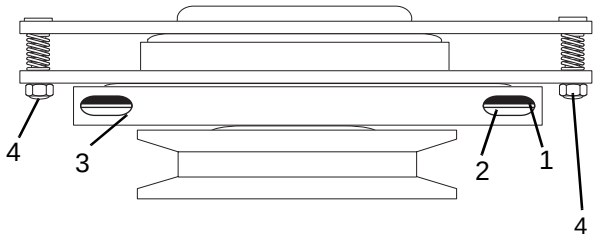
   Maximum: A .023" feeler gauge should slide between armature and rotor with slight contact.
3. Repeat for each inspection slot.

To adjust:

1. If necessary, loosen gap adjustment nuts until a .005" feeler gauge fits between armature and rotor.
2. Slide a .012" feeler gauge between armature and rotor.
3. Tighten gap adjustment nut until there is slight contact on feeler gauge.
4. Repeat steps 1 – 3 at each inspection slot.

NOTE: Adjust air gap as evenly as possible.

5. Start unit, engage and disengage PTO.
6. Shut off unit.
7. Recheck air gap and adjust if needed.



1. Armature
2. Rotor
3. Inspection Slot
4. Gap Adjustment Nut

Figure 16

BATTERY (988320)

Unit comes equipped with a maintenance-free battery that requires no regular maintenance except cleaning the terminals.

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Check Battery

Terminals

Inspect battery and terminals every 25 hours.

To clean terminals:

1. Remove battery cover.
2. Remove battery cables from terminals.
3. Clean or service battery away from unit. Remove corrosion from battery terminals and cable connections with wire brush, then wash with a weak baking soda solution.
4. Apply a thin coat of dielectric grease or petroleum jelly to terminals and cable ends to retard corrosion.
5. Replace battery and secure with battery cover.

Charge Battery

WARNING: FROZEN BATTERIES CAN EXPLODE and result in death or serious injury.

DO NOT charge a frozen battery. Let the battery thaw before charging.

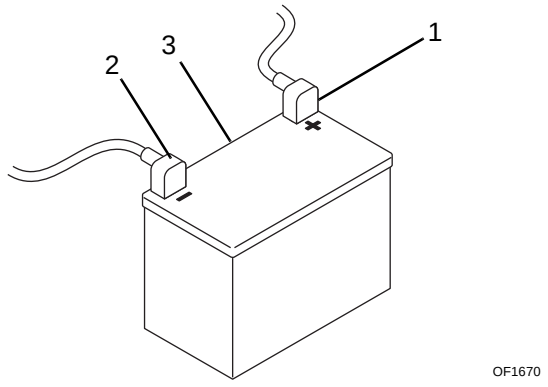
Battery Electrolyte First Aid

- **External Contact:** Flush with water.
- **Eyes:** Flush with water for at least 15 minutes and get medical attention immediately!
- **Internal Contact:** Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately! DO NOT induce vomiting!

IMPORTANT: DO NOT fast charge. Charging at a higher rate will damage or destroy battery.

IMPORTANT: ONLY use an automatic charger designed for use with your battery. ALWAYS follow information provided on battery and battery charger. Contact battery and charger manufacturers for detailed instructions.

1. Remove battery cover.
2. Disconnect negative (–) cable first, then positive (+) cable (Figure 17).
3. Remove battery.
4. Place battery on bench or other well-ventilated area.
5. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative (–) terminal.
6. Charge battery according to charger and battery manufacturers' instructions.
7. Reinstall battery on unit and connect positive (+) cable first, then negative (–) cable.



1. Positive terminal
2. Negative terminal
3. Battery

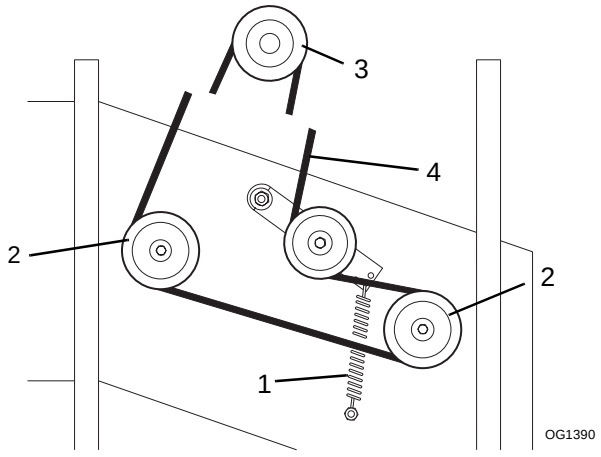
Figure 17

It may be possible to recharge the battery by jump starting the unit and allowing the engine to run.

Jump-Starting

Ariens does not recommend jump-starting your unit. Jump-starting can damage engine and electrical system components. See your engine manual for more detailed information.

36" BELT REPLACEMENT



1. Idler Spring
2. Deck Pulley
3. Mower Clutch Sheave
4. Belt

Figure 18

1. Stop engine, remove key and wait for all hot parts to cool.
2. Set deck to the fourth cutting height.
3. Remove deck cover.
4. Remove deck idler spring.
5. Remove belt from deck pulleys and mower clutch sheave.
6. Install new belt.
7. Replace idler spring.
8. Replace deck cover and secure.

44" and 48" BELT REPLACEMENT

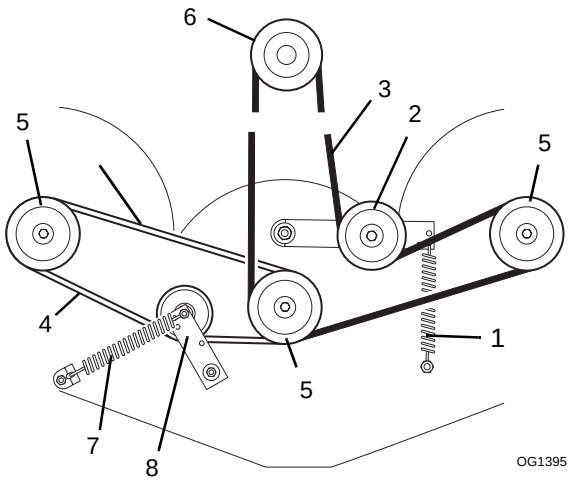
Mower Drive Belt

1. Stop engine, remove key and wait for all hot parts to cool.
2. Set deck to the fourth cutting height.
3. Remove deck cover.
4. Remove mower drive belt idler spring (Figure 19).
5. Remove mower drive belt from deck sheaves and mower clutch sheave.
6. Install new mower drive belt on deck sheaves and mower clutch sheave.
7. Replace mower drive belt idler spring to tension belt.
8. Replace deck cover and secure.

NOTE: Make sure wing knobs do not interfere with cutting height adjustments.

Deck Belt

NOTE: Mower drive belt must be removed before removing the deck belt.



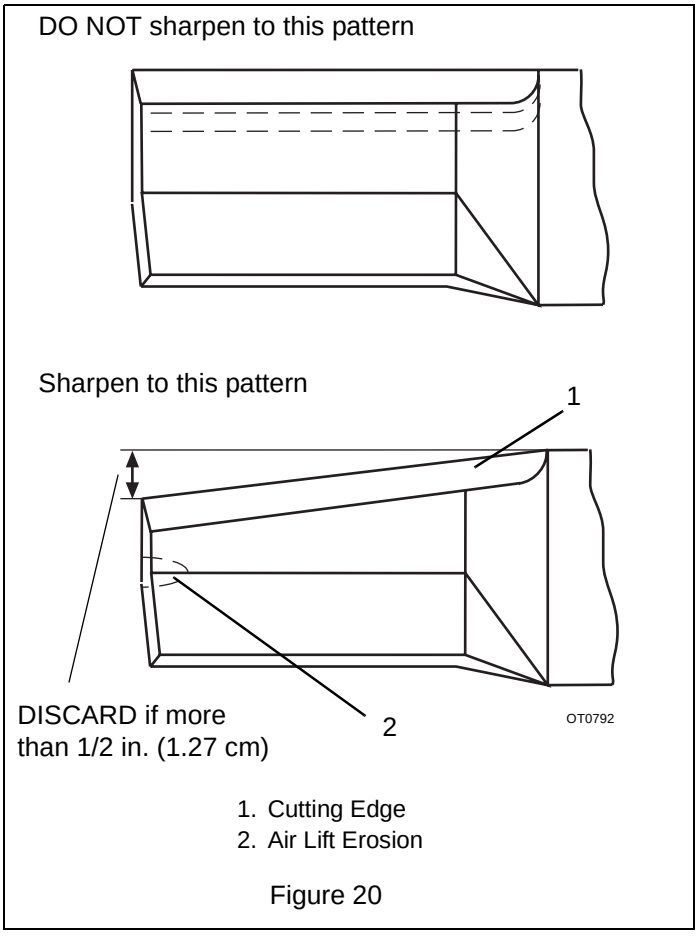
1. Mower Drive Belt Idler Spring
2. Mower Drive Belt Idler
3. Mower Drive Belt
4. Deck Belt
5. Deck Sheave
6. Mower Clutch Sheave
7. Deck Belt Idler Spring
8. Deck Belt Idler

Figure 19

1. Stop engine, remove key and wait for all hot parts to cool.
2. Remove the deck belt idler spring from the spring anchor.
3. Remove deck belt from deck sheaves.
4. Install new deck belt.
5. Replace deck idler spring to tension belt.
6. Replace mower drive belt.
7. Replace deck cover.

MOWER BLADES

NOTE: If mower is used under sandy soil conditions, replace blades when air lifts become eroded through at ends (Figure 20).



1. Cutting Edge
2. Air Lift Erosion

Figure 20

Remove Mower Blades

CAUTION: Use sturdy gloves or padding to protect hands when working with mower blades.

1. Turn the engine off. Remove the ignition key. Remove the ignition wire from the spark plugs.
2. Remove the bolts, lock washer, flat washers, and blades from the spindle shafts.

Replace Mower Blades

1. Put the blades, flat washers, lock washers, and the bolts back on the spindle shafts.
2. Tighten the bolts to a torque of 115-125 lbf-ft (156-169.5 N•m).
3. Replace ignition wire on spark plugs.

Sharpen the Mower Blades

Figure 20.

> **CAUTION:** DO NOT sharpen mower blades while on unit. An unbalanced mower blade will cause excessive vibration and eventual damage to unit. Check mower blade balance before reinstalling blades.
>
> NEVER weld or straighten bent blades.

1. Remove mower blade from unit.

Discard mower blade if:

- More than 1/2 in. (1.27 cm) of metal is removed.
- Air lifts become eroded.
- Blade is bent or broken.

2. Sharpen mower blade by removing an equal amount of material from each end of mower blade. DO NOT change angle of cutting edge or round the corner of the mower blade.
3. Check mower blade balance.

   Slide mower blade on an unthreaded bolt. A balanced blade should remain in a horizontal position. If either end of mower blade moves downward, sharpen the heavy end until blade is balanced.
4. Install mower blade(s) on unit (See *Replace Mower Blades* on page 22).

STORAGE

> **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

Storage – Two Months or More

Check each item in the *MAINTENANCE SCHEDULE* on page 16, but do not add gasoline.

Clean the unit. Touch up all scratched painted surfaces.

IMPORTANT: Never spray unit with high-pressure water or store unit outdoors. Store unit in a cool, dry, protected location.

NOTE: Clean unit thoroughly with mild soap and low pressure water and lubricate (See *GENERAL LUBRICATION* on page 18). Touch up all scratched painted surfaces. Do not allow gasoline or oil to remain on any decals.

Engine

Refer to the engine manual to prepare the engine for storage.

Battery

Remove battery and store in a cool, dry place.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
Engine will not start	1. Safety Interlock System is preventing start. 2. Fuel tank is empty or fuel is contaminated. 3. Air cleaner is clogged or damaged. 4. Safety Interlock System out of adjustment or defective. 5. Dirty or damaged spark plug.	1. The engine will not start unless the key is in the On position, the parking brake is On and the Power Take Off (PTO) is Off. 2. Add fuel. If necessary, replace the fuel with clean, fresh fuel. 3. Clean or replace the filter element. See engine manual. 4. See your Dealer for repairs. 5. See Engine Manual.
Unit will not move or mow when the engine is running	1. Bypass valves left open. 2. Hydro pump belt or mower belt is broken, worn, or off the pulleys. 3. Cold Start Disengage is engaged. 4. Parking brake is engaged.	1. Close bypass valves. 2. Check belts for wear, damage and correct position on pulleys. Replace belts if worn or damaged. See *REPLACING HYDRO PUMP BELT* on page 19. 3. Disengage Cold Start Disengage. 4. Disengage parking brake.

PROBLEM	PROBABLE CAUSE	CORRECTION
Changes in the sound or vibrations of the unit	1. Loose or missing fasteners. 2. Mower blade problem. 3. Worn or damaged clutch.	1. Check all the fasteners. Replace if necessary. 2. Check blades for wear or damage. See *MOWER BLADES* on page 22. 3. See your Dealer for repairs.
Unit pulls sharply to the left or right when the speed control levers are quickly moved all the way forward Unit does not straighten immediately when the steering levers are released	1. Binding in the pump actuating linkage. 2. Steering levers out of adjustment.	1. Check linkage for debris or damage. Repair if necessary. See *Service and Adjustments* or your Dealer for repairs. 2. See *CONTROL LEVER NEUTRAL ADJUSTMENT* on page 19.
Unit loses power	1. Binding in the steering or parking brake linkage. 2. Steering levers out of adjustment.	1. Check linkage for debris or damage. Repair if necessary. *See Parking Brake Adjustment* on page 18 or your Dealer for repairs. 2. See *CONTROL LEVER NEUTRAL ADJUSTMENT* on page 19.

SERVICE PARTS

Part No.	Qty	Description
21538000	1	Paper Element (15 HP)
21538200	1	Paper Element (17 HP)
21538100	1	Foam Precleaner (15 HP)
21538300	1	Foam Precleaner (17 HP)
21538400	1	Fuel Filter
21535800	1	Oil Filter
21533600	2	Spark Plug
00273000	1	Mulch Blade - 16.25"
00273100	1	Mulch Blade - 18"
07240100	1	Mower Drive Belt - 36" Deck
07240300	1	Mower Drive Belt - 44" Deck
07240200	1	Mower Drive Belt - 48" Deck
07202900	1	Mower Deck Belt - 44" and 48" Deck
07239700	1	Hydro Belt

ACCESSORIES

Part No.	Description
78805800	Rear Discharge Mulch Kit - 36" Decks
79205800	Rear Discharge Mulch Kit - 44" Decks
78803400	48" Mulching Kit

SPECIFICATIONS			
Model Number	988316	988319	988320
Model	HR1536FXPCE	HR1544FXPCE	HE1748FLPCE
Engine			
Engine	Kawasaki		
Engine Model Number	FH430V-BS06		FH500V-AS35
Engine Power – hp (kW) at Maximum RPM	15 (11.2)		17 (12.7)
Governed RPM (May be different from maximum RPM)	2750 ± 50	2550 ± 50	3250 ± 50
Cooling Capacity	Air Cooled		
Speed			
Forward Maximum (3600 RPM) – mph (km/h)	4.9 (8.2) 6.7 (11.2)		
Reverse Maximum (3600 RPM) – mph (km/h)	1.8 (3.0) 2.9 (4.8)		
Turning Radius	0		
Brakes	Hydrostatic/Dynamic		
Electrical			
Starter	Recoil		Electric
Battery	N/A		12-Volt Maintenance Free
Power Take-Off	Electric PTO Clutch		
Fuel			
Fuel Type	Refer to Engine Manual		
Fuel Tank Capacity – gal. (L)	6.6 (25)		
Transmission			
Type	Hydrostatic Drive		
Transmission Oil	Mobil 1 15W-50 Synthetic		
Hydraulic System Capacity – qt (L)	4.5 (4.26)		
Hydraulic Oil Filter	Yes		
Size and Weight			
Length – in. (cm)	84.25 (214)	76 (193)	77.5 (196.8)
Width – in. (cm)	38.2 (97)	47.5 (120.7)	50.6 (128.5)
Height – in. (cm)	43.5 (110.5)		
Weight – lbs (kg)	594 (269.4)	644 (292)	709 (321.5)
Tires			
Tire Size – in. (cm)	18 x 8.5-8 4-Ply		
Tire Pressure – psi (kPa)	8 -16 (55 - 110)		
Mower Deck			
Cutting Width – in. (cm)	35.25 (89.5)	44 (111.8)	47.25 (120)
Cutting Height – in. (cm)	1 - 4 (2.5 - 10)		
Cutting Height Increments – in. (cm)	0.5 (1.25)		

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⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.